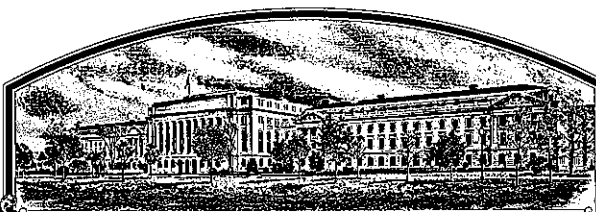


No.

8300029



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

North American Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'AP 120'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 27th day of February in the year of our Lord one thousand nine hundred and eighty-four.

Attest

Kenneth G. ...
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

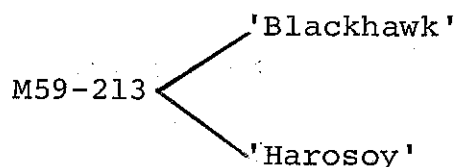
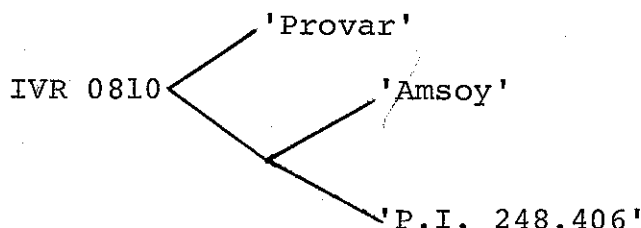
No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S) North American Plant Breeders <i>INC.</i> <div style="text-align: right;"><i>RJS</i></div>		2. TEMPORARY DESIGNATION 		3. VARIETY NAME AP 120		FOR OFFICIAL USE ONLY PVPO NUMBER <div style="font-size: 1.2em; font-weight: bold;">8300029</div>	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 5201 Johnson Drive P.O. Box 2955 Mission, Kansas 66205		5. PHONE (Include area code) (913) 384-4940		FILING DATE <div style="text-align: center;">11/26/82</div> TIME <div style="text-align: center;">1:00 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.</div>		FEES RECEIVED AMOUNT FOR FILING \$ 1,000 DATE <div style="text-align: center;">11/26/82</div> AMOUNT FOR CERTIFICATE \$ _____ DATE _____	
6. GENUS AND SPECIES NAME <u>Glycine max</u>		7. FAMILY NAME (Botanical) Leguminosae					
8. KIND NAME Soybean		9. DATE OF DETERMINATION January 1975		12. DATE OF INCORPORATION			
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Partnership							
11. IF INCORPORATED, GIVE STATE OF INCORPORATION				13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Mr. Giles E. Dixon North American Plant Breeders <i>INC.</i> P. O. Box 2955 Mission, KS 66201 <div style="text-align: right;"><i>RJS</i></div> </div> <div style="width: 45%;"> Dr. Wayne R. Ellingson North American Plant Breeders <i>INC.</i> R.R. 2, Hwy 30 East Ames, IA 50010 <div style="text-align: right;"><i>RJS</i></div> </div> </div>			
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement </div> <div style="width: 45%;"> c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.) d. <input type="checkbox"/> Exhibit D, Additional Description of the Variety </div> </div>							
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No </div>				17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified </div>			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </div>							
18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES? <div style="text-align: right;"> <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No </div>				19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES? <div style="text-align: right;"> <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No </div>			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.							
SIGNATURE OF APPLICANT <div style="font-family: cursive; font-size: 1.2em;">Wayne Ellingson</div>				DATE <div style="text-align: center;">11/8/82</div>			
SIGNATURE OF APPLICANT <div style="font-family: cursive; font-size: 1.2em;">G. J. Wisner</div>				DATE <div style="text-align: center;">11-22-82.</div> <div style="text-align: right; font-weight: bold; font-size: 1.2em;">1</div>			

"EXHIBIT A"

Origin and Breeding History of 'AP 120'

1. AP 120 originated in Iowa from a hand pollinated cross of 'IVR 0810' x 'M59-213'. The parentages of these lines are as follows:



The cross was made during the summer of 1971. The F₁ and F₃ generations were grown in a Puerto Rico winter nursery during the winters of 1971-72 and 1972-73. The F₂, F₄, F₅ and F₆ generations were grown in Iowa. Early generations were advanced using a modified single seed descent technique. Single plants of the cross were selected in Iowa and progeny rows were planted in Iowa during the spring of 1975. AP 120 was F₅ derived.

2. In 1978, single plants of the variety were reselected and grown in progeny rows in 1979. Only rows conforming to a standard were harvested and bulked.

The genetic make-up of the variety was stabilized in the 6th generation (1974). The variety has remained stable and the sole purpose for reselection was for beginning multiplication for commercial seed stock production. The variety was essentially not changed, but only mixtures removed that have occurred during the two years of yield trials.

3. AP 120 has been in yield trials since 1977. Ordinarily it would have entered tests in 1976, but due to budget constraints, we held the variety in cold storage that year. See attached for 1977-81 data. AP 120 has only been tested under one experimental designation, EX 2145.
4. Discernible variants are not an inherent component of the variety.

"EXHIBIT B"

Novelty is based on the unique combination of the following characters:

'AP 120' is most similar to the variety 'AP 10'. However, AP 120 differs from AP 10 in maturity and plant type and Phytophthora resistance.

1. AP 120 is an early Group I maturity, 5 days earlier than the mid Group I variety AP 10.
2. AP 120 is a short statured, very slender canopy type where AP 10 is a taller, intermediate canopy type.
3. AP 120 is susceptible to Phytophthora (race 1 & 2) where AP 10 is resistant.

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (GLYCINE MAX)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) North American Plant Breeders Inc. <i>NY</i>	FOR OFFICIAL USE ONLY PVPO NUMBER 8300029
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) 5201 Johnson Drive P.O. Box 2955 Mission, Kansas 66205	VARIETY NAME OR TEMPORARY DESIGNATION AP 120

Place the appropriate number that describes the varietal character of this variety in the boxes below.

1. SEED SHAPE:

☒ 1 = SPHERICAL 2 = SPHERICAL FLATTENED 3 = ELONGATE 4 = OTHER (Specify) _____

2. SEED COAT COLOR:

☒ 1 = YELLOW 2 = GREEN 3 = BROWN 4 = BLACK 5 = OTHER (Specify) _____

SHADE:

☒ 1 = LIGHT 2 = MEDIUM 3 = DARK

3. SEED COAT LUSTER:

☒ 1 = DULL 2 = SHINY

4. SEED SIZE

☒ 17 GRAMS PER 100 SEEDS

5. HILUM COLOR:

☒ 2 1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK 6 = BLACK 7 = OTHER (Specify) _____

SHADE:

☒ 1 = LIGHT 2 = MEDIUM 3 = DARK

6. COTYLEDON COLOR:

☒ 1 = YELLOW 2 = GREEN

7. LEAFLET SIZE (See Reverse):

☒ 1 = SMALL 2 = MEDIUM 3 = LARGE

8. LEAFLET SHAPE:

☒ 1 = OVATE 2 = OBLONG 3 = LANCEOLATE 4 = ELLIPTICAL 5 = OTHER (Specify) _____

9. LEAF COLOR (See reverse):

☒ 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

10. FLOWER COLOR:

☒ 2 1 = WHITE 2 = PURPLE 3 = OTHER (Specify) _____

11. POD COLOR:

☒ 1 = TAN 2 = BROWN 3 = BLACK

12. POD SET:

☒ 1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR:

☒ 1 = GRAY 2 = BROWN 3 = OTHER (Specify) _____

SHADE:

☒ 2 1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES (See Reverse):

☒ 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT:

☒ 2 1 = DETERMINATE 2 = INDETERMINATE 3 = OTHER (Specify) _____

16. HYPOCOTYL COLOR:

☒ 2 1 = GREEN 2 = PURPLE

17. SEED PROTEIN:

☐ 1 = A 2 = B Not Required

18. NUMBER OF DAYS TO FLOWERING

(Place a zero in first box (e.g.) when days are 9 or less.)

4 4

19. MATURITY GROUP:

☒ 3 1 = 00 2 = 0 3 = I 4 = II 5 = III
6 = IV 7 = V 8 = VI 9 = VII 10 = VIII

20. SIZE OF 10 DAY OLD SEEDLING GROWN UNDER CONSTANT LIGHT (Growth Chamber) AT 25° C. (Place a zero in first box (e.g.) when size is 9 mm. or less.)

MM. LENGTH OF SEEDLING MM. LENGTH OF COTYLEDON MM. WIDTH OF COTYLEDON

21. DISEASE: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input type="checkbox"/> BACTERIAL PUSTULE	<input type="checkbox"/> SOYBEAN CYST	<input type="checkbox"/> DOWNY MILDEW	<input type="checkbox"/> PURPLE STAIN	<input type="checkbox"/> POD AND STEM BLIGHT	<input type="checkbox"/> ROOT KNOT
<input type="checkbox"/> FROGEYE	<input type="checkbox"/> STEM CANKER	<input checked="" type="checkbox"/> 1 PHYTO-PHTHORA	<input type="checkbox"/> BROWN STEM ROT	<input type="checkbox"/> TARGET SPOT	<input type="checkbox"/> BROWN SPOT
<input type="checkbox"/> BUD BLIGHT	<input type="checkbox"/> WILDFIRE	<input type="checkbox"/> RHIZOCTONIA ROT	<input type="checkbox"/> OTHER (Specify) _____		

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	AP 230	Petiole angle	AP 230
Leaf shape	AP 200	Seed size	Corsoy
Leaf color	Corsoy	Seed shape	AP 10
Leaf surface	AP 10	Seedling pigmentation	AP 10

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY:

VARIETY	NO. OF DAYS TO MATURITY	LODGING SCORE	PLANT HEIGHT	LEAF SIZE		CONTENT		AVERAGE NO. OF PODS PER PLANT	IODINE NO.
				Width	Length	Protein	Oil		
Submitted	95	1.2	32 in.	7.4cm	11.4cm		%	38	ND
Name of similar variety AP 10	100	2.0	36 in.	6.4cm	10.1cm			40	ND

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

1. Scott, Walter O. and Samuel R. Aldrich, 1970, Modern Soybean Production, The Farmer Quarterly.
2. Norman, A. G., 1963, The Soybean: Genetics, Breeding, Physiology, Nutrition, Management.
3. McKie, J. W., and K. L. Anderson, 1970, The Soybean Book.

LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following Soybean varieties may be used as a guide to identify the colors listed on the form.

COLOR	VARIETY
Light Green	"Ada"
Medium Green	"Wilkin"
Dark Green	"Swift"

LEAF SIZE: The following varieties may be used as a guide to identify the relative size leaves.

SIZE	VARIETY
Small	"Amsoy"
Medium	"Bonus"
Large	"Anoka"

PLANT TYPE: The following varieties may be used as a guide to identify the plant type.

TYPE	VARIETY
Slender	"Vansoy"
Intermediate	"Wirth"
Bushy	"Adelphia"

NNS 2145 - 75

EX 2145 = 'AP 120' r/s

A. Summary

- Group I (4-5 days earlier than Hodgson)
- Good standability
- Fair emergence score (4.0)*
- Good shattering resistance (1.0)*
- PRR resistance (Race 1)
- Good PRR field resistance (2.8)*

- Purple flowers
- Gray pubescence
- Yellow hilum
- Purple hypocotyle
- Dull seed coat luster
- Small seed size (2700 seed/pound)

Variety	Maturity	Height	Lodging*	Wide Row	Narrow Row	Overall Average 1977-1980	1981 NABP Data Summary				
							Variety	Maturity	Height	Lodging	Wide Row
AP 120 = EX 2145	09-15	35	2.0	41.3	34.5	41.0	AP 120 = EX 2145	9-12	34	1.9	44.4
Harlan	09-14	39	2.6	36.7	31.0	34.9	Harlan	9-13	37	2.6	41.2
Steele	09-20	41	3.0	-	-	-	AP 10	9-17	39	2.4	48.2
Hodgson	09-20	37	2.4	43.7	39.7	41.8	Vickery	9-22	41	2.7	49.4
							P0877	9-12	34	2.2	46.1

B. NABP - Yield by Location - Wide Rows (30 inch)

Variety	1977 Delavan MN	1978 Hanska MN	1978 Mason City IA	1979 Hanska MN	1979 Goodthunder MN	1979 Mason City IA	1980 Hanska MN	1980 Goodthunder MN	1980 Ithaca MI	1980 Algona IA	1980 Mason City IA
AP 120 = EX 2145	39.7	52.1	44.4	43.6	41.1	49.8	49.4	26.4	44.3	43.2	43.3
Harlan				39.3	37.9	51.5	44.9	20.9	42.8	37.3	37.5
Steele	38.0	48.7	37.6								
Hodgson	32.7	51.0	45.8	42.1	38.3	52.1	55.4	35.5	45.4	39.2	42.8
LSD (.05)		3.6	4.9	5.8	4.0	5.9	4.6	3.9	5.3	6.9	5.8
Mean		49.4	45.1	41.8	39.1	50.8	52.9	34.7	43.8	40.7	45.4

* Scored on a 1-5 basis, 1=best

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Variety	1980		1980		1980		1981		1981		1981	
	Hanska MN	Goodthunder MN	Algona IA	Mason City IA	Algona IA	Mason City IA	Heron Lake MN	Algona IA	Sheffield IA	Janesville WS		
AP 120' = EX 2145												
Harlan	44.8	24.5	35.7	32.9	42.9	32.9	40.4	44.4	50.3	42.7		
Steele	43.9	19.4	27.9	32.9			39.5	40.5	42.9	41.2		
Hodgson	55.4	34.2	34.2	34.8			42.1	46.2	53.0	51.6		
LSD (.05)	6.6	3.8	5.1	8.1			44.5	45.9	52.8	54.6		
Mean	51.8	33.3	35.1	37.8			40.8	46.6	43.9	53.2		
							6.0	6.4	6.1	7.6		
							45.0	50.1	53.6	54.4		